

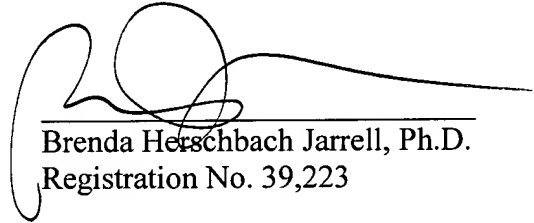
### Remarks

This Amendment cancels claims 52 and 54-59 and amends claims 61-62. Claims 61-62 have been amended to correct their antecedent basis as requested by the Examiner under heading #8 of the Office Action mailed September 30, 2002.

Applicant respectfully submits that this Amendment adds no new matter and should be entered into the present case since it simplifies the issues that will remain under appeal. As required, attached hereto as **Appendix A** is a marked-up version of the changes made to the claims by this Amendment. For the Examiner's convenience, also attached hereto is an **Appendix B** showing all pending claims as amended remaining in this application.

A Petition for Please charge any fees that may be associated with this filing, or credit any overpayment, to our Deposit Account No. 03-1721.

Respectfully submitted,



Brenda Herschbach Jarrell, Ph.D.  
Registration No. 39,223

CHOATE, HALL & STEWART  
Exchange Place  
53 State Street  
Boston, MA 02109  
(617) 248-5000

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## **APPENDIX A**

### **VERSION WITH MARKINGS TO SHOW CHANGES MADE**

Claims 52 and 54-59 have been cancelled and claims 61-62 have been amended as follows:

61. **(Currently amended)** The modified ~~protein~~ food allergen of claim 60 wherein the unmodified food allergen is obtained from a source selected from the group consisting of legumes, milks, grains, eggs, fish, crustaceans, and mollusks.
62. **(Currently amended)** The modified ~~protein~~ food allergen of claim 61 wherein the unmodified food allergen is obtained from a source selected from the group consisting of wheat, barley, cow milk, egg, codfish, hazel nut, soybean, and shrimp.

## APPENDIX B

### CLAIMS PENDING AFTER ENTRANCE OF AMENDMENT

37. **(Previously amended)** A modified protein allergen whose amino acid sequence is substantially identical to that of an unmodified protein allergen except that at least one amino acid has been modified in at least one IgE epitope so that IgE binding to the modified protein allergen is reduced as compared with IgE binding to the unmodified protein allergen, the at least one IgE epitope being one that is recognized when the unmodified protein allergen is contacted with serum IgE from an individual that is allergic to the unmodified protein allergen.
38. **(Previously amended)** The modified protein allergen of claim 37 wherein at least one amino acid has been modified in all the IgE epitopes of the unmodified protein allergen.
39. **(Previously amended)** The modified protein allergen of claim 37 wherein the at least one IgE epitope is one that is recognized when the unmodified protein allergen is contacted with a pool of sera IgE taken from a group of at least two individuals that are allergic to the unmodified protein allergen.
40. **(Previously amended)** The modified protein allergen of claim 37 wherein at least one modified amino acid is located in the center of the at least one IgE epitope.
41. **(Previously amended)** The modified protein allergen of claim 37 wherein at least one amino acid in the at least one IgE epitope of the unmodified protein allergen has been modified by substitution.
42. **(Previously amended)** The modified protein allergen of claim 41 wherein at least one hydrophobic amino acid in the at least one IgE epitope of the unmodified protein allergen has been substituted by a neutral or hydrophilic amino acid.

43. **(Previously added)** The modified protein allergen of claim 37 wherein the modified protein allergen retains the ability to activate T cells.
44. **(Previously added)** The modified protein allergen of claim 37 wherein the modified protein allergen retains the ability to bind IgG.
45. **(Previously added)** The modified protein allergen of claim 37 wherein the modified protein allergen retains the ability to initiate a Th1-type response.
46. **(Previously amended)** The modified protein allergen of claim 37 wherein the modified protein allergen is a portion of the unmodified protein allergen.
47. **(Previously amended)** A composition comprising the modified protein allergen of claim 37 and an adjuvant selected from the group consisting of IL-12, IL-16, IL-18, IFN $\gamma$ , and immune stimulatory sequences.
48. **(Previously added)** The modified protein allergen of claim 37 wherein the modified protein allergen is made in a transgenic plant or animal.
49. **(Previously added)** The modified protein allergen of claim 37 expressed in a recombinant host selected from the group consisting of plants and animals.
50. **(Previously added)** The modified protein allergen of claim 37 expressed in a recombinant host selected from the group consisting of bacteria, yeast, fungi, and insect cells.
51. **(Previously amended)** The modified protein allergen of claim 37 wherein the unmodified protein allergen is obtained from a source selected from the group consisting of legumes, milks, grains, eggs, fish, crustaceans, mollusks, insects, molds, dust, grasses, trees, weeds, mammals, and natural latexes.

52. **(Canceled)**

53. **(Previously amended)** The modified protein allergen of claim 37 made by the process of:

identifying at least one IgE epitope in an unmodified protein allergen;

preparing at least one modified protein allergen whose amino acid sequence is substantially identical to that of the unmodified protein allergen except, that at least one amino acid has been modified in the at least one IgE epitope;

screening for IgE binding to the at least one modified protein allergens by contacting the at least one modified protein allergens with serum IgE taken from at least one individual that is allergic to the unmodified protein allergen; and

selecting a modified protein allergen with decreased binding to IgE as compared to the unmodified protein allergen.

54-59. **(Canceled)**

60. **(Previously added)** A modified food allergen whose amino acid sequence is substantially identical to that of an unmodified food allergen except that at least one amino acid has been modified in at least one IgE epitope so that IgE binding to the modified food allergen is reduced as compared with IgE binding to the unmodified food allergen, the at least one IgE epitope being one that is recognized when the unmodified food allergen is contacted with serum IgE from an individual that is allergic to the unmodified food allergen.

61. **(Currently amended)** The modified food allergen of claim 60 wherein the unmodified food allergen is obtained from a source selected from the group consisting of legumes, milks, grains, eggs, fish, crustaceans, and mollusks.

62. **(Currently amended)** The modified food allergen of claim 61 wherein the unmodified food allergen is obtained from a source selected from the group consisting of wheat, barley, cow milk, egg, codfish, hazel nut, soybean, and shrimp.

63. **(Previously added)** A modified peanut allergen whose amino acid sequence is substantially identical to that of an unmodified peanut allergen except that at least one amino acid has been modified in at least one IgE epitope so that IgE binding to the modified peanut allergen is reduced as compared with IgE binding to the unmodified food allergen, the at least one IgE epitope being one that is recognized when the unmodified peanut allergen is contacted with serum IgE from an individual that is allergic to the unmodified peanut allergen.
64. **(Previously added)** The modified peanut allergen of claim 63 wherein the unmodified peanut allergen is selected from the group consisting of Ara h 1, Ara h 2, and Ara h 3.
65. **(Previously added)** The modified allergen of claim 37, claim 60, or claim 63, wherein the at least one IgE epitope contains 1-6 amino acid residues that are modified as compared with the unmodified allergen.
66. **(Previously added)** The modified allergen of claim 37, claim 60, or claim 63, wherein the at least one IgE epitope contains 1-5 amino acid residues that are modified as compared with the unmodified allergen.
67. **(Previously added)** The modified allergen of claim 37, claim 60, or claim 63, wherein the at least one IgE epitope contains 1-4 amino acid residues that are modified as compared with the unmodified allergen.
68. **(Previously added)** The modified allergen of claim 37, claim 60, or claim 63, wherein the at least one IgE epitope contains 1-3 amino acid residues that are modified as compared with the unmodified allergen.
69. **(Previously added)** The modified allergen of claim 37, claim 60, or claim 63, wherein the at least one IgE epitope contains 1-2 amino acid residues that are modified as compared with the unmodified allergen.

70. **(Previously added)** The modified allergen of claim 37, claim 60, or claim 63, wherein the at least one IgE epitope contains 1 amino acid residue that is modified as compared with the unmodified allergen.
71. **(Previously added)** The modified allergen of claim 37, claim 60, or claim 63, wherein binding by serum IgE to the at least one epitope is reduced for the modified allergen to less than about 1% of that observed to the unmodified allergen.